



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,512	10/18/2005	Mamoru Shoji	OKUDP0140US	7473
51921 7590 01/15/2008 MARK D. SARALINO (MEI) RENNER, OTTO, BOISSELLE & SKLAR, LLP 1621 EUCLID AVENUE 19TH FLOOR CLEVELAND, OH 44115			EXAMINER BATTAGLIA, MICHAEL V	
			ART UNIT 2627	PAPER NUMBER
			MAIL DATE 01/15/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/553,512

Applicant(s)

SHOJI ET AL.

Examiner

Michael V. Battaglia

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-18 is/are rejected.
- 7) ☒ Claim(s) 8 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 1A-1C should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

4. The disclosure is objected to because of the following informality. On line 3 of Page 26, replacing "first block 215 of the second content 105" with --first block 216 of the second content 105-- is suggested (see Fig. 6). Appropriate correction is required.

Explicit Definitions of Claim Terms in Specification

5. "Where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim" (MPEP 2111.01(IV) citing *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999)). Applicant has provided an explicit definition for the terms "unrecorded area" and

“dummy data.” Applicant has explicitly defined “unrecorded area” as “an area in which no recording marks are present and which is even longer than the longest one of the marks and spaces obtained by modulating the data to be written” (Applicant’s Specification: Page 2, line 19-Page 3, line 2). Applicant has explicitly defined “dummy data” “data other than address data” (*Id.* at Page 25, lines 19-20). Those definitions will control interpretation of the terms as they are used in the claims.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. According to claim 10, “the first or second set of data is written by irradiating the unrecorded area with light having erasing power.” The claimed “unrecorded area” is located “between respective areas where the first and second sets of data have been written” (claim 1). To use the invention of claim 10, one skilled in the art would require undue experimentation to determine how the first set of data (Fig. 6, element 525 or Fig. 7, element 725), which is located in an area preceding the unrecorded area (Fig. 6, element 220 or Fig. 7, element 714), or the second set of data (Fig. 6, element 526 or Fig. 7, element 726), which is located in an area following the unrecorded area, could be written “by irradiating the unrecorded area with light having erasing power.” Surely, something in addition

to “irradiating the unrecorded area with light having erasing power” must be done to accomplish writing of the first or second set of data. Accordingly, claim 10 fails to comply with the enablement requirement.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-6, 9 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Van Woudenberg (US 7,215,634).

In regard to claim 1, Van Woudenberg discloses an optical data writing method for writing user data optically on an optical disk (“optical disk” of Col. 2, line 59) by dividing the user data into a number of blocks (“ECC blocks” if Col. 1, line 56-Col. 2, line 9), each being made up of a plurality of sectors, and adding an error correction code to each said block (Col. 1, line 56-Col. 2, line 9), the method comprising the steps of: writing a first set of data (Fig. 6, “Physical [*sic*] Cluster k,” “PoA” and “G2”), including data representing a first content (Fig. 6, “Data” of “Physical [*sic*] Cluster k”), on a track on the optical disk (Fig. 6); and writing a second set of data (Fig. 6, “G1,” “PrA” and “Physical Cluster k + 1”), including data representing a second content (Fig. 6, “Data” of “Physical Cluster k + 1”), onto the track such that an

unrecorded area (Figs. 6 and 7, "Gap"), where no data is stored, is left between respective areas where the first and second sets of data have been written (Figs. 6 and 7 and Col. 2, lines 42-57).

In regard to claim 4, Van Woudenberg discloses that the end of the data representing the first content and/or the beginning of the data representing the second content includes dummy data (Fig. 6, "PrA").

In regard to claim 5, Van Woudenberg discloses that the first set of data includes dummy data (Fig. 6, "PoA" and "G2") after the data representing the first content (Fig. 6).

In regard to claim 6, Van Woudenberg discloses that the second set of data (Fig. 6, "G1" and "PrA") includes dummy data before the data representing the second content (Fig. 6).

In regard to claim 9, Van Woudenberg discloses that the dummy data defines a phase-locking pattern (Col. 2, lines 34-41).

In regard to claim 15, Van Woudenberg discloses an optical disk ("optical disk" of Col. 2, line 59), on a track of which user data has been written optically by dividing the user data into a number of blocks ("ECC blocks" if Col. 1, line 56-Col. 2, line 9), each being made up of a plurality of sectors, and adding an error correction code to each said block (Col. 1, line 56-Col. 2, line 9), wherein an unrecorded area (Figs. 6 and 7, "Gap"), where no data is stored, is provided between an area where a first set of data (Fig. 6, "Physical [*sic*] Cluster k," "PoA" and "G2"), including data representing a first content (Fig. 6, "Data" of "Physical [*sic*] Cluster k"), is stored and an area where a second set of data (Fig. 6, "G1," "PrA" and "Physical Cluster k + 1"), including data representing a second content (Fig. 6, "Data" of "Physical Cluster k + 1"), is written (Figs. 6 and 7 and Col. 2, lines 42-57).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Woudenberg in view of Kim et al (hereinafter Kim) (US 6,826,142).

Van Woudenberg discloses the method of claim 1 and optical disk of claim 15 wherein addresses are defined by "a wobble signal recorded on the optical disk" (Col. 2, lines 58-61). However, Van Woudenberg does not disclose that the track on the optical disk includes no prepit areas defining addresses.

Kim teaches that optical disks on which a wobble signal is recorded "have greater recording capacity due to great reduction in overhead, compared with conventional land/groove-recordable optical discs in which addresses are formed using pre-pits" (Col. 5, line 65-Col. 6, line 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the track on the optical disk of Van Woudenberg to include no prepit areas defining addresses as suggested by Kim, the motivation being for the optical disk of Van Woudenberg realize the greater recording capacity and great reduction in overhead offered by the addresses of Van Woudenberg being defined by the wobble signal of Van Woudenberg.

9. Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Woudenberg in view of Nishida (US 7,065,017).

Van Woudenberg discloses the optical data writing method of claims 5 and 6 but does not disclose that a gap as long as one block is provided between the respective areas in which the data representing the first content and the data representing the second content have been written.

Nishida discloses an optical data writing method that provides a gap (“unrecorded block” of Col. 15, lines 33-42) as long as one block between the respective areas (“between the blocks” of Col. 15, lines 33-42) in which data representing a first content (block before the “unrecorded block” of Col. 15, lines 33-42) and data representing a second content (block before the “unrecorded block” of Col. 15, lines 33-42) have been written to provide an area in which test writing to determine an optimum amount of light is performed between the respective areas (Col. 15, lines 33-42 and see Col. 1, lines 27-36).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the method of Van Woudenberg to provide a gap as long as one block between the respective areas in which data representing a first content and data representing a second content have been written as suggested by Nishida, the motivation being to provide an area in which test writing to determine an optimum amount of light is performed between the respective areas of Nishida.

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Woudenberg in view of Togawa (US 5,930,226).

Van Woudenberg discloses the optical data writing method of claim 1. The method of Van Woudenberg is inherently implemented using hardware, software or a combination thereof. It is noted that, when a method is implemented using software or a combination of software and hardware, a computer-readable storage medium having stored thereon a program that is defined

so as to make a computer execute respective processing steps of the method is inherently used. Van Woudenberg does not disclose whether the method is implemented using hardware, software or a combination thereof. As a result, Van Woudenberg does not disclose a computer-readable storage medium having stored thereon a program that is defined so as to make a computer execute respective processing steps of the optical data writing method of claim 1.

Togawa discloses that implementing method using hardware is an art-recognized equivalent to implementing a method using software, or a combination of software and hardware, which uses a computer-readable storage medium having stored thereon a program that is defined so as to make a computer execute respective processing steps of the method (Col. 9, lines 54-60).

Therefore, implementing the method of Van Woudenberg using software or a combination of software and hardware was an art-recognized equivalent to implementing the method of Van Woudenberg using hardware at the time of the invention for the purpose of implementing a method, and one of ordinary skill would have found it obvious to use either one including the implementing of the method of Van Woudenberg using software or a combination of software and hardware, wherein a computer-readable storage medium having stored thereon a program that is defined so as to make a computer execute respective processing steps of the optical data writing method of claim 1 is used.

11. Claims 1, 3, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanda et al (hereinafter Kanda) (US 6,751,176) in view of Sugaya et al (hereinafter Sugaya) (US 6,301,208).

In all rejections using the Kanda reference, citations to Kanda refer to the embodiment of Kanda in which optical disc 1 is an "erasable recording and reproducing disc" and "a state in which no recording mark is formed" has been selected as "the state [of the recognition mark area] corresponding to the recorded area other than the [last recorded area]" (Col. 17, lines 54-61). One of ordinary skill in the art would recognize that, in this embodiment, a determination that access to the recognition mark area 6d cannot normally be performed as a result of no recording mark existing in the recognition mark area 6d indicates that a succeeding recorded area exists (i.e., the "YES" and "NO" outputs of the "Is normal access possible?" step of Fig. 3 or 6 would be switched) (see Col. 12, line 58-Col. 13, line 10).

In regard to claim 1, Kanda discloses an optical data writing method for writing user data optically (Col. 12, lines 9-15) on an optical disk (Figs. 1, 2 and 4, element 1), the method comprising the steps of: writing a first set of data (Figs. 1, 2, 4, 5 and 7, element 4), including data representing a first content, on a track on the optical disk (Col. 12, lines 9-15); and writing a second set of data (Figs. 4, 5 and 7, element 11), including data representing a second content, onto the track such that an unrecorded area (Figs. 1, 2, 4, 5 and 7, element 6d), where no data is stored ("state in which no recording mark is formed" of Col. 17, lines 54-61), is left between respective areas where the first and second sets of data have been written (Figs. 4, 5 and 7). Although Kanda is concerned with "block length for correcting error as a unit" (Col. 2, line 62-Col. 3, line 17), Kanda does not explicitly disclose that the user data of Kanda is written optically by dividing the user data into a number of blocks, each being made up of a plurality of sectors, and adding an error correction code to each said block.

Suguya discloses writing user data optically on an optical disk by dividing the user data into a number of blocks, each being made up of a plurality of sectors, and adding an error correction code to each said block “to improve the data error correction ability” (Col. 1, lines 20-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for user data of Kanda to be written by dividing the user data into a number of blocks, each being made up of a plurality of sectors, and adding an error correction code to each said block as suggested by Sugaya, the motivation being to improve data error correction ability.

In regard to claim 15, Kanda discloses an optical disk (Figs. 1, 2 and 4, element 1), on a track of which user data has been written optically (Col. 12, lines 9-15), wherein an unrecorded area (Figs. 1, 2, 4, 5 and 7, element 6d), where no data is stored (“state in which no recording mark is formed” of Col. 17, lines 54-61), is provided between an area where a first set of data (Figs. 1, 2, 4, 5 and 7, element 4), including data representing a first content, is stored and an area where a second set of data (Figs. 4, 5 and 7, element 11), including data representing a second content, is written (Figs. 4, 5 and 7). Although Kanda is concerned with “block length for correcting error as a unit” (Col. 2, line 62-Col. 3, line 17), Kanda does not explicitly disclose that the user data of Kanda is written optically by dividing the user data into a number of blocks, each being made up of a plurality of sectors, and adding an error correction code to each said block.

Suguya discloses writing user data optically on an optical disk by dividing the user data into a number of blocks, each being made up of a plurality of sectors, and adding an error

correction code to each said block “to improve the data error correction ability” (Col. 1, lines 20-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for user data of Kanda to be written by dividing the user data into a number of blocks, each being made up of a plurality of sectors, and adding an error correction code to each said block as suggested by Sugaya, the motivation being to improve data error correction ability.

In regard to claims 3 and 17, Kanda discloses that the unrecorded area is at least as long as one sector (Col. 2, line 62-Col. 3, line 17 and Col. 12, lines 45-47).

12. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanda in view of Sugaya and further in view of Kobayashi (US 6,278,672). It is again noted that citations to Kanda refer to the embodiment of Kanda in which optical disc 1 is an "erasable recording and reproducing disc" and “a state in which no recording mark is formed” has been selected as “the state [of the recognition mark area] corresponding to the recorded area other than the [last recorded area]” (Col. 17, lines 54-61).

In regard to claim 12, Kanda discloses an optical disk drive (Fig. 1) for writing user data optically on an optical disk (Figs. 1, 2 and 4, element 1), the drive comprising: a motor for rotating and driving the optical disk (“motor” of Col. 11, lines 59-61); an optical head (Fig. 1, element 2) for irradiating the optical disk with a light beam to write data thereon (Col. 1, lines 61-64); a servo control section (Fig. 1, element 3) for controlling a spot made by the light beam (Col. 12, lines 1-8); and a light beam control section (Fig. 1, element 7) for controlling the intensity of the light beam (Col. 12, lines 9-15), wherein the servo control section and the light

beam control section control the optical disk and the light beam so as to write a first set of data (Figs. 1, 2, 4, 5 and 7, element 4), including data representing a first content, on a track on the optical disk and then write a second set of data (Figs. 4, 5 and 7, element 11), including data representing a second content, onto the track such that an unrecorded area (Figs. 1, 2, 4, 5 and 7, element 6d), where no data is stored (“state in which no recording mark is formed” of Col. 17, lines 54-61), is left between respective areas where the first and second sets of data have been written (Figs. 4, 5 and 7). Although Kanda is concerned with “block length for correcting error as a unit” (Col. 2, line 62-Col. 3, line 17), Kanda does not explicitly disclose that the user data of Kanda is written by dividing the user data into a number of blocks, each being made up of a plurality of sectors, and adding an error correction code to each said block. Kanda does not disclose that the servo control section is also for controlling the rotational velocity of the motor.

Sugaya discloses writing user data optically on an optical disk by dividing the user data into a number of blocks, each being made up of a plurality of sectors, and adding an error correction code to each said block “to improve the data error correction ability” (Col. 1, lines 20-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for user data of Kanda to be written by dividing the user data into a number of blocks, each being made up of a plurality of sectors, and adding an error correction code to each said block as suggested by Sugaya, the motivation being to improve data error correction ability. Kanda in view of Sugaya does not disclose that the servo control section is also for controlling the rotational velocity of the motor.

Kobayashi discloses a servo control section (Fig. 1, element 25 and Col. 3, line 62-Col. 4, line 2) for controlling the rotational velocity of a motor (Fig. 1, element 22) for rotating an optical disk (Fig. 1, element D) and a spot make by a light beam irradiated by an optical head (Fig. 1, element 21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the servo control section of Kanda in view of Sugaya to also be for controlling the rotational velocity of the motor of Kanda in view of Sugaya as suggested by Kobayashi, the motivation being for the rotational velocity of the motor Kanda in view of Sugaya to be controlled.

In regard to claim 14, Kanda discloses that the unrecorded area is at least as long as one sector (Col. 2, line 62-Col. 3, line 17 and Col. 12, lines 45-47).

13. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanda in view of Sugaya and further in view of Kobayashi as applied to claim 12 above, and further in view of Kim.

Kanda in view of Sugaya and further in view of Kobayashi discloses the drive of claim 12. Kanda discloses that the track on the optical disk of Kanda in view of Sugaya and further in view of Kobayashi defines addresses (Col. 12, lines 1-5). Kanda in view of Sugaya and further in view of Kobayashi does not disclose that the track on the optical disk includes no prepit areas defining addresses.

Kim teaches defining addresses on a track of an optical disks using a wobble signal instead of a pre-pit area because "optical discs manufactured by recording a . . . wobble signal in a . . . track . . . have greater recording capacity due to great reduction in overhead, compared with

conventional . . . optical discs in which addresses are formed using pre-pits” (Col. 5, line 65-Col. 6, line 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the track on the optical disk of Kanda in view of Sugaya and further in view of Kobayashi to include no prepit areas defining addresses as suggested by Kim, the motivation being for the optical disk of Kanda in view of Sugaya to have a great recording capacity due to reduced overhead.

Allowable Subject Matter

14. Claims 8 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regard to claim 8, none of the references of record alone or in combination suggest or fairly teach an optical data writing method for writing user data optically on an optical disk by dividing the user data into a number of **blocks, each being made up of a plurality of sectors, and adding an error correction code to each said block**, the method comprising the steps of: writing a first set of data, including data representing a first content, on a track on the optical disk; and writing a second set of data, including data representing a second content, onto the track such that **an unrecorded area, where no data is stored, is left between respective areas where the first and second sets of data have been written**, wherein the first set of data includes dummy data after the data representing the first content, wherein each of the first and second sets of data is divided into a **plurality of sectors, which are spaced apart from each other by linking areas of the same length, and wherein a gap as long as one linking area is**

provided between the respective areas where the data representing the first content and the data representing the second content have been written.

In regard to claim 19, none of the references of record alone or in combination suggest or fairly teach an optical data writing method for writing user data optically on an optical disk by dividing the user data into a number of **blocks, each being made up of a plurality of sectors**, and adding an error correction code to each said block, the method comprising the steps of: writing a first set of data, including data representing a first content, on a track on the optical disk; and writing a second set of data, including data representing a second content, onto the track such that **an unrecorded area, where no data is stored, is left between respective areas where the first and second sets of data have been written**, wherein the second set of data includes dummy data before the data representing the second content, wherein each of the first and second sets of data is divided into a **plurality of sectors, which are spaced apart from each other by linking areas of the same length, and wherein a gap as long as one linking area is provided between the respective areas where the data representing the first content and the data representing the second content have been written.**

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Heemskerk et al (US 6,628,584) disclose an unrecorded area (Fig. 4, element 42), where no data is stored (Col. 5, lines 10-12), is left between respective areas where first and second sets of data have been written (Figs. 3 and 4). Schep et al (US 6,298,033) disclose leaving an unrecorded area between respective areas of first and seconds contents (Fig. 2). Lee (U S6,813,107) discloses providing a blank area of 150 blocks in length in which testing is

carried out between first and second data sessions (Fig. 6). Mine et al (US 5,978,336) (Fig. 11A) and Sasaki (US 2004/0090886) (Fig. 2) disclose unrecorded regions provided between sets of data. Sakuma (US 5,643,031) discloses an empty block B4 between tracks of data (Fig. 3).

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Battaglia whose telephone number is (571) 272-7568. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MICHAEL V. BATTAGLIA
PATENT EXAMINER